



AOR AR-8000

Full Frequency Restorable!

SCN 27



With wide frequency coverage--500 kHz- 1900 MHz (~~less cellular, restorable when programmed with Scancat-God Software~~), 1000 memory channels and all-mode reception (AM, USB, LSB, CW, WFM, NFM), the new AR8000 offers selectable tuning steps from 50 Hz through 999.995 kHz. An oversized, ~~edgelit~~ LCD window holds 44 bold alphanumeric characters, 7 of which can be custom-written for convenient user identification!

Autostore, RS232 control, second-radio cloning, power saver, keyboard beep defeat, and even selectable-channel display blanking for security! A top-panel rotary knob tunes frequencies and channels. Dual VFOs toggle between two-frequency simplex. 30-Channel-per-second scan/search speed.

Each channel may be programmed for frequency, mode, audio or carrier squelch with programmable 1-99 second delay, 10-dB attenuator, step size, channel offset, and channel designator. Any one channel may be selected for priority sampling. An LCD bargraph S-meter also serves as a narrow-span, spectrum display unit!

The feature list continues with strong, clear audio; interchangeable NiCad/alkaline batteries (4AA NiCds and charger included); a universal 9- 16 volt external power Jack for convenient mobile uses; an internal ferrite antenna for medium-wave broadcast reception; and an illustrated 115-page owner's manual.

After you purchase your AR 8000, we can restore the missing 800 MHz for only \$40 plus return shipping!

Specifications

Manufacturer: AOR

Price: \$599.95

Shipping Rates

US Rates: UPS 2nd: \$9.00 Priority Mail: \$10.00

Canadian Rates: Can App: \$12.50 Can UPS: \$14.00

For International Shipping Rates call or E-Mail: order@grove.net

Accessories:

ICOM R100

Excellent for the Full Spectrum Listener!

SCN 14



For the full spectrum listener, this compact scanner is hard to beat: tuning range from 100 kHz-799 MHz, 900- 1856 MHz with direct keypad entry or knob tuning, 100 channel memory, switchable preamp and attenuator, programmable 24-hour clock timer, 10 search ranges, LCD bargraph S meter, AM and wide/narrow FM mode detection (no SSB) just begin the list of features.

Comes with VHF/UHF telescoping antenna, HF wire antenna, DC power cable, mounting bracket. **fuses, speaker plug, cable ties and screws.** Prices subject to change due to yen fluctuations. **After you purchase, we can restore the missing 800-900 MHz for only \$40 plus parts and \$10 shipping.**

Specifications

Manufacturer: ICOM

Price: \$679.95

Shipping Rates

US Rates: UPS 2nd: \$10.00 Priority Mail: \$17.00

Canadian Rates: Can App: \$19.50 Can UPS: \$18.00

For International Shipping Rates call or E-Mail: order@grove.net

Accessories:

| Order Number | Item | Price |
|---------------|---------------------|---------|
| <u>CVR 3</u> | GRE Super Converter | \$84.95 |
| <u>BAT 16</u> | Power Pocket | \$59.95 |
| <u>SPL 2</u> | SCPC Splitter | \$79.95 |



Grove Catalog Home Page

*** Bob's Tip of the Month ***

(from Monitoring Times, January 1993, Dial 1-800-438-8155, Great Magazine!)

Realistic (R) PRO-39 Cellular Restoration (Page 107)

I [with a few comments added by someone who witnessed such restoration -jqt]

The recently released PRO-39 handheld scanner from Realistic (R) is a fine performer, but its 800 MHz range is interrupted by the factory censoring of cellular frequency coverage. Long-time MT supporter Larry Wiland of Youngstown, Ohio, would like to share the simple fix. Remember, however, that it is unlawful to listen to cellular phone calls.

(NOTE: These procedures may void your warranty. Do not attempt them unless you are familiar with small component soldering. Monitoring Times accepts no responsibility for damages resulting from attempting this modification.)

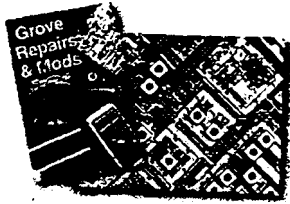
TOOLS NEEDED: Fine-tipped soldering iron, desoldering wick, small Philips screwdriver, long-nosed pliers, rosin-core solder.

- (1) [Turn off your radio. Removing the batteries when the radio is ON can erase the memory! -jqt] Remove the battery door, holder and [battery pack] from the bottom of the radio.
- (2) Remove the four screws from the back of the scanner and carefully lift the back off.
- (3) Unplug the two wiring harnesses at their connectors and remove the six bright colored screws [that hold] the circuit board in place. Unsolder the ground wire from the lower right corner of the circuit board. Unsolder the two wire connections from the BNC antenna connector at the board. Carefully lift the board (grasping it near the Molex connector) and set it aside.
- (4) Remove the two bright colored screws from the next circuit board. Carefully unplug the two-wire connector [and remove the board, as I recall -jqt]. Unsolder and lift the rectangular metal shield exposing the diodes.
- (5) Carefully unsolder and remove diode D6 only; this will restore the missing cellular frequencies which can be searched in appropriate 30 kHz steps.

This completes the cellular restoration. Reverse all procedures to reassemble the radio and test it by entering any frequency between 869-094 MHz. [If you are as lucky as I was, the memory will still contain your other frequencies! -jqt]

Curious about the other diodes? D4 would enable 68-88 MHz coverage, but deletes 30-54 MHz; D5 (present) allows 800 MHz band operation; and D7 would make cellular spacing 12.5 kHz (incorrect).

Thanks Larry!



Grove's Scanner/Receiver Modifications

Following is a chart of radio modifications available from Grove Enterprises, along with pricing (in some cases, customers can save money by requesting multiple mods at one time on the same unit; please call for details). Turnaround time is 2 days for AOR 8000 mods, 1 week for all other mods. Prices shown do not include returning shipping charges--please add \$9.00 for handhelds, \$11 .00 for mobile units and \$16.00 for ICOM, Drake and AOR large units.

If you are not seeing this chart as neat columnar lists, your browser is probably incompatible with HTML tables. Please see Grove home page for information on downloading Netscape. Some tables are wider than your screen-- please scroll to right.

Uniden Scanner Modifications

| MODEL | CELLMOD | SCAN SPEED |
|--------|---------------|------------|
| BC100 | N/A | \$45 |
| BC200 | \$40 | \$45 |
| BC205 | \$40 | \$45 |
| BC700 | \$40 | N/A |
| BC760 | \$40/BNC \$50 | N/A |
| BC855 | \$45 | N/A |
| BC890 | \$40 | N/A |
| BC950 | \$40/BNC \$50 | N/A |
| BC2500 | \$50 | N/A |

ICOM Scanner and Receiver Modifications

| MODEL | CELL. MOD | SCAN SPEED |
|-------|-----------|------------|
| R1 | \$50 | N/A |
| R71 | N/A | N/A |
| R100 | \$40 | N/A |
| R7000 | N/A | \$50 |
| R7100 | \$40 | N/A |

AOR Scanner Modifications

| MODEL | CELL. MOD. | REACTION TUNE 3.1 | REACTION TUNE 3.0 |
|-------|------------|-------------------|-------------------|
| 2700 | \$40 | N/A | N/A |
| 3000A | \$55 | N/A | N/A |
| 8000A | \$40 | \$65 | \$115 |

Sony Receiver Modifications

| MODEL | STATIC MOD. |
|---------|-------------|
| ICF2010 | \$50 |

Realistic and Radio Shack Scanner Modifications

| MODEL | CELL. MOD | SCAN SPEED | MEM. MOD. | AUDIO MOD. | BEEP DELETE | 30-88 MHZ MOD. | OPTOBOARD |
|-------------|--------------|---------------|--------------|---------------|----------------|----------------------|-----------|
| PRO 23 | Key Pad | N/A | N/A | N/A | N/A | N/A | N/A |
| PRO 26 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| PRO 33 | \$40 | \$45 | N/A | N/A | N/A | N/A | N/A |
| PRO 34 | \$40 | \$45 | N/A | N/A | N/A | N/A | N/A |
| PRO 37 | \$40 | \$45 | N/A | N/A | N/A | N/A | N/A |
| PRO 39 | \$40 | N/A | N/A | \$40 | \$40 | \$40 | N/A |
| PRO 43 | \$40 | N/A | N/A | \$40 | \$40 | \$40 | N/A |
| PRO 46 | \$40 | N/A | N/A | N/A | N/A | N/A | N/A |
| PRO 51 | Key Pad | N/A | N/A | N/A | N/A | N/A | N/A |
| PRO 2004 | \$40 | \$40 | 400--\$45 | N/A | N/A | \$40 | N/A |
| PRO 2005 | \$40 | \$40 | N/A | N/A | \$40 | N/A | \$65 |
| PRO 2006 | \$40 | \$40 | N/A | N/A | \$40 | N/A | \$65 |
| PRO 2021 | \$40 | \$45 | N/A | N/A | N/A | 68-88 MHZ--\$40 | N/A |
| PRO 2022 | \$40 | \$45 | N/A | N/A | N/A | 68-88 MHZ--\$40 | N/A |
| PRO 2026 | \$40 | N/A | N/A | N/A | N/A | N/A | N/A |
| PRO 2027 | \$45 | N/A | N/A | N/A | N/A | 68-88 MHZ--\$40 | N/A |
| PRO 2030 | \$40 | N/A | N/A | N/A | N/A | N/A | N/A |
| PRO 2032 | \$55 | \$50 | N/A | N/A | N/A | N/A | N/A |
| PRO 2035 | N/A | N/A | N/A | N/A | N/A | N/A | \$85 |
| PRO 2040 | N/A | N/A | N/A | N/A | N/A | N/A | \$85 |

Here's All You Need to Do:

1. Call the Grove Technical line at 704-837-7081 to discuss your modification request.
2. Mail unit with payment plus shipping and precise instructions. Include your name and address and



➔ ***FREE 800MHz Band with No Gaps, FREE 2nd Day Air Shipping, and \$100 off when you order the new ICOM R-8500 Communications Receiver from Grove!***

Here's Grove's amazing offer:

- **The world-class ICOM R-8500 with 100 kHz-1999.95 MHz coverage (less cellular) at \$100 off original price of \$1,999.95 (now \$1,899.95!).**
- **A FREE GRE Superconverter (\$85 value) to restore the missing 800 MHz frequencies!**
- **FREE 2nd Day UPS shipping (\$17 value) from Grove!**



Imagine: an affordable, compact, tabletop receiver with continuous 100 kHz-1999.99 MHz frequency coverage (less cellular from the factory, but restored by the GRE

Superconverter), tunable in precise 10 Hz **steps--longwave**, shortwave, VHF/UHF, all services and modes (wide and narrow FM and AM, USB, LSB, CW). Add high sensitivity, IF shift, selectable AGC timing, audio peak filter to automatically enhance modes, built-in RS232C and CI-V for direct computer control, 1000 memory channels in 20 banks, multiple scanning selections with priority function and selectable delay, S-meter **settable** squelch, noise blanker, and 12 VDC / 120 VAC operation.

This all-new receiver offers features previously found only on the premium R-9000--**which** sells to the government for \$7,508-but the R-8500 retails for under \$1,900. High stability crystal oscillators combine with automatic frequency control circuitry for outstanding stability. Multiple tuning speeds optimize signal hunting. Alphanumeric display aids in identifying memorized frequencies. Automatic memorizing of search-discovered active frequencies, skipping of unwanted channels, three antenna connectors for optimal choices for frequency ranges, even voice scan to ignore noisy channels, and even optional voice synthesizer and remote control--an incredible array of advanced features! Click here to view **specifications.**

Call today to order your premium ICOM R-8500 (Grove product code SCN 1) now for only **\$1,899.95**. This product also described and sold in the **Grove On-Line Catalog**.

Also see **Bob Grove's comparison** of the R-8500 and the AOR-5000!

Grove Enterprises, Inc.
7540 Highway 64 West
Brasstown, N.C. 28902

Call Toll Free 1-800-438-8155;
Outside U.S. and Canada call 1-704-837-9200; Fax 1-704-837-2216;
Or E-mail us at: order@grove.net

(Note: For complete order information, please see our **How to Order page**.)

Link To:

The Grove Home Page
The Grove Catalog
Blue Marble Mall
Monitoring Times@
Satellite Times®
Radio Modification Services

If you are not seeing this page as neat columnar lists, your browser is probably incompatible with HTML tables. Please see Grove home page for information on downloading Netscape.



Bob's Bargain Bin list as of January 6th, 1997

This merchandise has been returned in almost-new condition by customers or used as demos at Grove Enterprises (designated by "U" in the product code). The list also includes new but discontinued items (designated as "new" in descriptions) and trade-ins ("TIN" product codes). If the product code is Underlined or Colored, by "clicking" on the code, you can see a picture and find more information about the product (as sold "New" in the Grove Catalog).

All equipment comes with a **30-day** money-back guarantee. All new units and most returns and demos have the original manufacturer's warranty. Trade-ins are thoroughly tested and warranted against defects for 90 days.

If you have a Scanner, Shortwave Receiver, Antique Radio, or Quack Medical Device that you do not know what to do with or want to upgrade, call our Technical Department at (704) 837-7081 or e-mail: tech@grove.net for quotes.

This list is updated frequently; watch it carefully for outstanding bargains!

HOT PRICE REDUCTIONS!!

Shortwave Receivers

Scanners

Transceivers

Satellite Dishes & Accessories

Computers and Accessories

Test Equipment

Other Major Equipment & Accessories

Publications and Software

Hot Price Reductions

| | | |
|----------------|--|--------|
| <u>ENGINE</u> | (New Low Price)HOBBY STEEAM KIT by Jenson (new units) | 99.95 |
| <u>GPS2000</u> | (New Low Price)MAGELLAN GPS-2000 (new units) | 149.95 |
| <u>PWR20</u> | (New Low Price)UNIVERSAL POWER CONVERTER (new units) | 29.95 |
| <u>ANT04</u> | (New Low Price)MAGNETIC MOUNT MOBILE ANTENNA (new units) | 29.95 |

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|--------|--|---------|
| URCV12 | AOR AR-5000 (used as demo at Grove Expo. minor scuffs)(has manual and AC power cord, feet) | 1859.95 |
| URCV04 | DRAKE SW-1 (used as demo at Grove Communications Expo)(has manual & power supply) | 289.95 |
| URCV19 | DRAKE SW-8 (500 KHz-30 MHz, 87-108 FM, 70 Memory Channels)(has manual & power supply)(units produced in '95) | 539.95 |
| TIN10 | ICOM R-70 Communications Receiver (no manual) | 459.95 |
| TIN59B | ICOM R-71A The standard of comparison in communications receivers worldwide. Brilliant fluorescent display provides frequency information down to tenths of a kilohertz and alerts the listener to other dial settings (mode, memory, channel, VRO). Signal resolution of 10 Hz eliminates the need for RIT, even on SSB or RTTY. Frequency range, 100 kHz-30 MHz. Effective noise blanker. Includes Remote Control, FM Option, and High Stability Crystal. <u>Picture</u> | 699.95 |
| TIN59D | ICOM R-71A The standard of comparison in communications receivers worldwide. Brilliant fluorescent display provides frequency information down to tenths of a kilohertz and alerts the listener to other dial settings (mode, memory, channel, VRO). Signal resolution of 10 Hz eliminates the need for RIT, even on SSB or RTTY. Frequency range, 100 kHz-30 MHz. Effective noise blanker. (manual, service manual, power cord & extra fuses) <u>Picture</u> | 669.95 |
| TIN59 | ICOM R-71A The standard of comparison in communications receivers worldwide. Brilliant fluorescent display provides frequency information down to tenths of a kilohertz and alerts the listener to other dial settings (mode, memory, channel, VRO). Signal resolution of 10 Hz eliminates the need for RIT, even on SSB or RTTY. Frequency range, 100 kHz-30 MHz. Effective noise blanker. (manual, power cord & extra fuses) <u>Picture</u> | 659.95 |
| TIN164 | REALISTIC DX-375 (30 Memory Channels, 4 Band SW Receiver)(has manual) | 65.95 |
| TIN147 | Sony SW-77: Portable shortwave receiver with 162 non-volatile memory channels, Station name display, 50 Hz fine tuning steps, Broadcasting Time Display, 150 kHz-29.95 MHz, 87.5-108 MHz, AM, AM synth, LSB, WFM, USB. (has manual, power supply, earphones and carrying strap) | 299.95 |

Scanners

| | | |
|---------|--|---------|
| USCN26 | AOR 3000A (Cellular restored) | 1049.95 |
| TIN168 | AOR 8000 (Cellular restored)(has manual, antenna, case and power supply) | 549.95 |
| TIN104A | BEARCAT 20/20: Frequency coverage: Low Band 30-50 MHz; Aircraft 118-136 MHz; 2 Meter Amateur 144-148 MHz; High Band 148-174 MHz; 70 CM Amateur 421-450 MHz; UHF Band 450-470 MHz; UHF-T Band 470.0125-512.45 MHz. IF Selectivity: -55db @ + 25 kHz; Selectable 5 or 15 channels per second scan speed; use either a telescoping antenna or an external antenna (50-70 ohms)(has manual & antenna). | 65.95 |
| TIN104 | BEARCAT 20/20: Frequency coverage: Low Band 30-50 MHz; Aircraft 118-136 MHz; 2 Meter Amateur 144-148 MHz; High Band 148-174 MHz; 70 CM Amateur 421-450 MHz; UHF Band 450-470 MHz; UHF-T Band 470.0125-512.45 MHz. IF Selectivity: -55db @ + 25 kHz; Selectable 5 or 15 channels per second scan speed; use either a telescoping antenna or an external antenna (50-70 ohms)(has manual). | 60.95 |
| TIN41 | BEARCAT 210 (has manual, power cord & cigarette DC cord) | 59.95 |
| TIN99 | BEARCAT 210-XW | 49.95 |
| TIN143 | BEARCAT 220-XLT: Frequency range: 29-54, 108-174, 406-512, 806-956 MHz (less cellular); Receiving modes: NFM & AM (areo); 200 memory channels; Double conversion; Scans 300 channels per second and much more! (has manual, antenna, power supply) <u>Picture</u> | 179.95 |

| | | |
|--------|---|--------|
| TIN49 | BEARCAT 350A: 50 Channes. 29-54 MHz. 108-174 MHz. 406-512 MHz. (has AC power supply, DC power cord, Mounting bracket, Antenna and Manual.) | 129.95 |
| TIN196 | BEARCAT 550A (Total 6 Banks: Police 739 programmed plus 20 programmable channels, Fire/Emg 197 programmed plus 10 programmable channels. Air 1160 programmed. Marine 90 programmed, Weather 7 programmed NOAA weather services, Private 20 channels fully user programmable; Search Bands: 29-54 Mhz. 108-174 MNz, 406-512 MHz) (has manual, antenna & power cord) | 109.95 |
| TIN113 | BEARCAT 600-XLT: This mobile / base scanner has 100 memory channels (5-20 channel banks) 11 bands, scans 15 channels per second, display is illuminated liquid crystal, with frequency rang: 29-54 MHz. 118-174 MHz. 406-512 MHz.(has power cord & antenna) | 99.95 |
| TIN157 | BEARCAT 760-XLT: 100 Channel Mobile/Base scanner; 12 Bands; Frequency range: 29-54 MHz, 118-174 MHz, 406-512 MHz, 806-956 MHz less cellular(is not restorable); Dual conversion.(has manual, antenna & AC power cord) | 189.95 |
| TIN61 | BEARCAT 800-XLT: Frequency range: 29-54. 118-174, 406-512, 806-912 MHz; 40 memory channels; Receiving modes: AM, narrow FM determined by frequency range; Scans 15 channels per second.(has manual, antenna & power cord) | 129.95 |
| TIN78 | BEARCAT 890-XLT(has manual, antenna & power supply) | 219.95 |
| USCN29 | BEARCAT 3000-XLT (has manual, antenna & earphone, no power supply) | 345.94 |
| TIN110 | BEARCAT 3000-XLT(has manual, antenna & power supply) | 348.94 |
| TIN200 | BEARCAT TTRACKER 2 (This Highway communications system & preprogrammed warning scanner covers the following frequencies: 37.02-46.02 MHz, 150.9950-171.580 MHz, 453.000-465.5625 MHz, 473.3125-508.9375 Mhz) (has manual, mounting bracket & cigarette DC cord) | 69.95 |
| USCN22 | BEARCAT TRACKER 10 (has manual, antenna & cigarette DC cord) | 165.95 |
| TIN210 | BLACK JAGUAR BJ-200 MK II (has antenna & power supply, no manual) | 59.95 |
| TIN22K | ICOM R-7100: (Manufactured with Full Coverage, like new) VHF/UHF Communications Receiver, Frequency Range: 25-2000 MHz; Receiving modes: AM, WAM, FM, WFM, NFM, USB AND SSB; 900 memory channels; Clock with 2 event timer; triple up-conversion under (778.7 or 266.7, 10.7 MHz; 455 kHz), and much more! <u>Picture</u> | 199.95 |
| TIN22B | ICOM R-7100: VHF/UHF Communications Receiver, Frequency Range: 25-2000 MHz; Receiving modes: AM, WAM, FM, WFM, NFM, USB AND SSB; 900 memory channels; Clock with 2 event timer; triple up-conversion under (778.7 or 266.7, 10.7 MHz; 455 kHz), and much more! (manual, power cord & antenna) <u>Picture</u> | 199.95 |
| TIN86 | PRO-23: This scanner offers a frequency range: Aircraft 108-136.975 MHz; Government 137-144 Mhz; Ham 144-148 MHz; VHF-Hi 148-174 MHz; Government 406-420 MHz; Ham 420-450 MHz; UHF Standard 450-470 MHz; UHF-T 470-512 MHz; UHF-Public Service 806.0000-823.9375 MHz, 851.0000-868.9375 MHz, 896.1125-956 MHz; 50 Channels in 5 banks of 10 channels; 12 channels per second scan speed; Power requirements: +6 VDC, 4 AA batteries, or suitable 9-volt adapter (negative ground only)(manual, antenna & power supply). | 9.95 |
| TIN39 | PRO-33: Gives you direct access to over 22,000 frequencies in eight action radio bands including-police, fire, ambulance, ham radio, and transportation services. Frequency range: 30-50 MHz (VHF Lo), 50-54 MHz (Ham radio 6m),136.005-14 MHz (government), 144-148 MHz (Ham radio 2m), 148-174 MHz (VHF Hi), 380-450 MHz, (Ham radio and government), 450-470 MHz (UHF Lo), 470-512 MHz (UHF T). (has manual, antenna & power supply) | 469.95 |
| TIN76C | PRO-43:(Cellular Restored)(200 Channels; Frequency range: 30-50 MHz, 118-174 MHz, 220-512 MHz, 806-1000 MHz less cellular, triple conversion)(manual & antenna) <u>Picture</u> | 269.95 |

| | | |
|---------|---|-------|
| TIN212 | PRO-50 (has manual & antenna) | 59.9 |
| TIN123 | PRO-60: Featuring continuous frequency coverage from 30-512 and 760-1000 MHz (less cellular), this scanner allows selection of AM and narrow or wide FM, storage of up to 200 memory channels in ten banks, triple up-conversion, rechargeable or replaceable batteries (available accessories), battery saver circuit, 25/50 channel-per-second scan/search speed.(manual & antenna) Picture | 259.9 |
| TIN17 | PRO-62: (200 Channels; Frequency range: 30-54 MHz, 118-136.9750 MHz, 137-174 MHz, 380-512 MHz, 849.0125-868.9875 MHz, 894.0125-960 Mhz)(manual & antenna) Picture | 179.9 |
| TIN130 | PRO-2005 (cellular restored) (has manual, & antenna) | 279.9 |
| TIN156 | PRO-2030 (Automaticly scans these frequencies for active channels: 29-29.7 MHz 10m-Ham, 29.7-50 MHz VHF Lo, 50-54 MHz 6 meter Ham, 108-136.975 MHz Aircraft, 137-144 MHz Government, 144-148 MHz 2- meter Ham, 148-174 MHz VHF Hi, 380-420 MHz UHF Government, 420-450 MHz 70cm Ham, 450-470 MHz UHF-Lo, 470-512 MHz UHF-Hi, 806-823.9375 MHz, 851-868.9375 MHz, 896.1125-956 Mhz)(has manual, power cord & antenna) | 189.9 |
| TIN51 | PRO-2036 (200 Channels in 10 Banks; Frequency Coverage: HF Band 29-29.9 MHz, VHF Lo 30-50 MHz, Amateur Radio 50-54, 144-148 MHz, Military Aircraft 225-399.9875 MHz, Amateur Radio/Government 406-450 MHz, Aircraft 108-136.975 MHz, Government 137-144 MHz, VHF Hi 148-174, 216-224.9875 MHz, UHF Lo 400-450 MHz, UHF Standard 450-470 MHz, UHF "T" 470-512 MHz, UHF Public Service 806-823-9875, UHF Hi 849.0125-868.9875, 894.0125-956 MHz | 189.9 |
| TIN160 | PRO-2037 (Not cellular capable, 200 memory channels, Triple conversion, 30-54 MHz, 118-174 MHz, 380-512 MHz, 806-823.9875 MHz, 849.0125-868.9875 MHz, 894.125-960 Mhz)(has manual & antenna) | 219.9 |
| TIN109 | REGENCY SCANNER HX-1500 (Frequency range: 29-54 MHz, 118-174 MHz, 406-420 MHz, 440-512 Mhz) (has antenna , no manual) | 59.9 |
| TIN145B | SPORTCAT 150-XLT (YELLOW) Designed expecially for the racing fan, SportCat has not only full land mobile and civilian aircraft coverage, but has 10 one-touch, direct-access keys for instant callup of active sports channels! This radio scans 100 channels per-second allowing virtually instant access to 100 memorized frequencies in the 29-54, 108-107, 406-512 and 806-956 MHz bands (less cellular); or press any of the ten preprogrammed TurboSearch keys to allow bandedge-to-bandedge frequency hunting at a blurring 300 channels per second and much more!! (manual, antenna & power supply) Picture | 169.9 |
| TIN115 | TRIDENT TR-980 (125 memory channels,25-1000 MHz, accessories: Antenna, Belt-clip and Manual) | 179.9 |

Transceivers

| | | |
|--------|--|--------|
| TIN138 | Yaesu FT-411 2m FM Transceiver (antenna & DC cigarette lighter cord) | 175.95 |
|--------|--|--------|

Satellite Dishes & Accessories

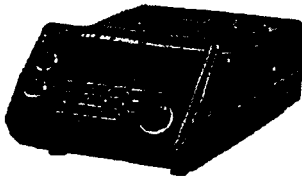
New Low Closeout Prices



AOR AR-3000A

Professional Desktop Scanner!

SCN 26



Imagine: A quality, general coverage shortwave communications-quality receiver and continuous, wide-frequency-coverage scanner. all in one compact instrument--and at a cost savings besides!

Arguably the best desktop scanner ever designed, the AOR AR3000A offers **100 kHz-2036 MHz** (less 824-849 and 869-894 Mhz--restorable with optional CVR 3) frequency coverage, continuous tuning dial, all mode reception (AM, NFM, WFM, USB, LSB, CW), 400 memory channels and fast 50 channel per second scan/search rate.

Unexcelled sensitivity and selectivity let you hear signals lesser scanners and shortwave receivers miss. 15 **bandpass** filters and low noise, wide dynamic range **GaAsFET** RF amplifiers combine to reject intermodulation and overload suffered by other scanners and receivers.

Operates on 13.6 VDC for compact mobile installations; 120 VAC adaptor included.

After you purchase your **AR-3000A**, we can restore the missing 800 MHz for only \$65 plus \$10.00 return shipping.

Specifications

Manufacturer: AOR

Price: \$1,062.95

Shipping Rates

US Rates: UPS 2nd: \$11.00 Priority Mail: \$18.50

Canadian Rates: Can App: \$19.50 Can UPS: \$21.50

For International Shipping Rates call or E-Mail: order@grove.net

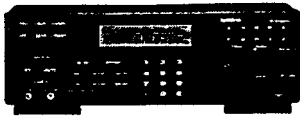
Accessories:

| Order Number | Item | Price |
|--------------|--|---------|
| <u>SFT 2</u> | Scancat Gold Receiver Control Software | \$99.95 |
| <u>CVR 3</u> | GRE Super Converter | \$84.95 |

Uniden BC890XLT

Unbeatable Value!

SCN 19



Uniden stuns the market with this low cost scanner which features wide frequency coverage (29-54, 108-174, 216-512, 806-956 MHz--less cellular), 200 memory channels, 100-channel-per-second **TurboScan**, weather alert, CTCSS (optional), channel activity counter, 10 channel priority, search autostore, tape recorder output, memory channel transfer, and much, much

more!

Specifications

Manufacturer: Uniden

Price: \$269.95

Shipping Rates

US Rates: UPS 2nd: \$9.00 Priority Mail: \$16.00

Canadian Rates: Can App: \$16.50 Can UPS: \$17.50

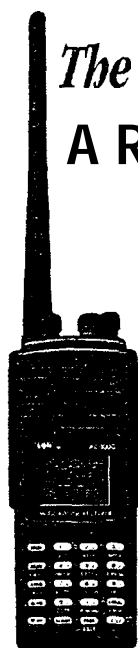
For International Shipping Rates call or E-Mail: order@grove.net

Accessories:

| Order Number | Item | Price |
|--------------|--|---------|
| <u>DCC 4</u> | Mobile Cigarette Lighter Power Adapter | \$9.95 |
| <u>CVR 3</u> | GRE Super Converter | \$84.95 |



Grove Catalog Home Page



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Full 800 MHz Restorable AOR Quality Scanners!

*After you purchase and receive your AR 8000, we can restore the missing 800MHz for only \$40 plus return shipping.

With wide frequency coverage-500 kHz-1900 MHz (less cellular, restorable), 1000 memory channels, AM/FM/SSB reception, selectable tuning steps from 50 Hz-999.995 kHz. An oversized, edgelit LCD window holds 44 bold alphanumeric characters.

Autostore, RS232 control, second-radio cloning, power saver, keyboard beep defeat, and selectable-channel display blanking. Dial tunes frequencies and channels. Dual VFOs and 30-channel-per-second scan/search speed.

Each channel may be programmed for frequency, mode, audio or carrier squelch with programmable 1-99 second delay, 10-dB attenuator, step size, channel offset, and channel designator. Any channel priority sampling, LCD, S-meter/spectrum display unit!

Interchangeable NiCd/alkaline batteries (4AA NiCds and charger included); a universal external power jack for mobile use; an internal ferrite antenna for medium-wave reception; illustrated 115-page owner's manual. See detailed specifications on pp. 8-9.

The most feature-packed handheld scanner on the market

ORDER SCN27
\$599⁹⁵

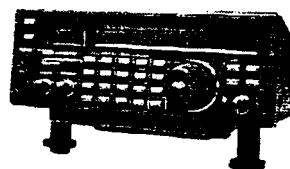
SHIPPING
\$9 UPS
\$10 US Priority Mail
\$14 Canadian UPS
\$12.50 Canadian APP

ACCESSORIES

| | | |
|--------|----------------------------------|-----------|
| ACC157 | Optolinx Universal Interface | \$129.95 |
| ACC156 | SAC-8000 Interface Cable | \$34.95 |
| BAT 1 | AA Alkaline batteries | \$7.99 |
| BAT 13 | Extra AA Nicad batteries | \$2.75 ea |
| CAS 2 | Genuine Leather case for AR-8000 | \$29.95 |
| CTR 8 | Optoelectronics Scout 3.1 | \$399.95 |
| PWR 2 | Desktop Charger | \$59.95 |
| SFr2 | Scancat Gold Software | \$94.95 |

AR5000

Super Wide-Coverage Receiver!



AOR has scooped the market with their new AR5000 extended-frequency coverage receiver, tunable from 10 kHz through 2600 MHz (less cellular) and offering 650 memory channels in 65 lo-channel banks. Imagine listening to 60 kHz time signals, VLF naval communications, international shortwave broadcasting, worldwide single-sideband communications, civilian and military aeronautical transmissions, as well as VHF/UHF public safety radio, ham repeaters, microwave earth satellites, and much, much more all on one receiver!

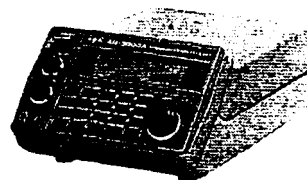
This triple-conversion luxury receiver offers outstanding sensitivity (0.15 microvolt SSB, 0.3 microvolt VHF/UHF, 0.6 microvolt AM), rapid 50-channel-per-second scan/search speed, programmable tuning steps from 1 Hz to 1 MHz, all mode reception (AM/FM/LSB/USB/CW), selectable IF bandwidths (3/6/15/40/110/220 kHz), superb frequency stability (+/-1 ppm, 0-50 deg. C.), mobile or fixed power (12 VDC / 120 VAC), and much, much more. See specifications on pp. 8-9.

ORDER RCV 12
\$1999⁹⁵

SHIPPING
\$17 UPS
\$29 US Priority Mail
\$26 Canadian UPS
\$35.50 Canadian APP

AR-3000A

Professional Desktop Scanner



Imagine: A fully-restorable, general coverage shortwave receiver and wide-frequency-coverage scanner, in one compact instrument!

The AOR AR3000A offers 100 kHz-2036 MHz (less cellular-restorable) frequency coverage, continuous tuning dial, AM/FM/SSB mode reception, 400 memory channels and 50 channel per second scan/search rate. High sensitivity and sharp selectivity let you hear signals lesser scanners and shortwave receivers miss.

Operates on 13.6 VDC for compact mobile installations; 120 VAC adaptor included. See specifications on pp. 8-9.

*After you purchase, we can restore the missing 800MHz for only \$65.

ORDER SCN26
\$1062⁹⁵

SHIPPING
\$11 UPS
\$18.50 US Priority Mail
\$19.50 Canadian UPS
\$21.50 Canadian APP

ACCESSORIES

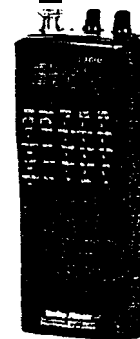
| | | |
|-------|-----------------------|---------|
| CVR 3 | GRE Super Converter | \$84.95 |
| SFT 2 | ScanCat Gold Software | \$94.95 |

From Radio Shack PRO-26

Handheld Scanner

Wide Coverage—
Scan up to 1.3 GHz!

Radio Shack's PRO-26 is feature-packed! Offering nearly continuous coverage, less cellular, from 25 to 1300 MHz, 200 memory channels, 300-channel-per-second search rate, triple upconversion, high sensitivity, and powerful 250 mW audio, the new PRO-26 is making waves on the scanner scene! Belt clip, flex whip and manual included. See specifications on pp. 8-9.



ORDER SCN5
\$349⁹⁵

SHIPPING
\$8 UPS
\$10 US Priority Mail
\$13 Canadian UPS
\$13 Canadian APP

ACCESSORIES

| | | |
|-------|---------------------------|------------|
| BAT 1 | AA cells (four required) | \$7.99 ea. |
| PWR 5 | AC adaptor/charger | \$6.95 |
| DCC 6 | Cigarette lighter DC cord | \$12.95 |
| ANT 8 | Telescoping whip antenna | \$16.95 |
| ANT14 | Condor flex antenna | \$29.95 |

Note on advertisement below: As of 4/26/95 it becomes unlawful to market cellular-capable receivers in the US. Atlantic Ham Radio assures us that it will give a full refund and hold customers harmless from shipping expenses if a purchased unit is returned to the vendor by US Customs.

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800MHz coverage!

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AR-3000A, AR-5000

Yupiteru MVT-7100, 8000

ICOM R9000, R8500, R1, R100

Win-Radio for PC 500Khz-1300Mhz coverage

AOR AR-8000

500KHz ~ 1900Mhz coverage
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- o Scan with up to 10 radios at the same time.
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- o Browse and import directly from DBASE files such as Grove or Percon FCC databases.
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- o Use any serial port, even COM3/4 when COM1/2 are in use. Will work with 4 and 6 port cards too!
- o Scan by PL/DPL tone with OS.456, OS535 & DC440
- o Scan multiple groups, banks and search ranges all at the same time! Alarms for priority channels.
- o Automatically unblock AR8000, band plan editor, mouse, serial ports, Windows 3.1 or 95. Cables and interfaces for radios may also be required.
- o Easy to use data editor. Exchange data with other file formats. Read/write channel memory and much more!

Equipment Supported:

OS456, OS535, R7100, R7000, R9000, FRG9600, DC440, AR3000(A), AR8000 (EDCO, Opto & AOR I/F supported.).

System Requirements:

IBM PC 386/486/586 with 4 MEG ram, hard disk, VGA, mouse, serial ports. Windows 3.1 or 95. Cables and interfaces for radios may also be required.

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Commercial Edition [DOS] \$129.97
Professional Edition [DOS] \$79.97

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2. The **length** of each element of the GP antenna is a quarter wavelength. You will need one vertical element and two to four radials; two is enough, but some prefer more. The length of a **quarterwave** in wire is found from the equation: $L = 234/\text{freq}$ (MHz). For instance, a GP for 7.2 MHz will have elements $234/7.2$ or 32.5 ft long. If you want to be able **to** solder your connections together it's best to use copper wire for the elements.

3. Cut the elements to length, leaving about 2 to 3 inches **extra** on each end to provide wire to wrap through the insulators.

4. Scrape **the** ends of the wire bright. Insert the ends in the insulators as shown in figure 1. Wrap **the** end of each wire back around itself as shown, and solder in place.

5. Attach **the** coax center conductor to the vertical element, and the coax outer conductor (shield) to the radials as shown in **figure 1B**. All radials are connected together at their top end and connected to the coax shield **at** the bottom of the insulator shown in figure 1B.

6. Protect **the open** end of the coaxial cable lead-in with coax sealant. For severe weather **you can** cover the sealant with black plastic **electrical** tape.

7. For **pulling the antenna** into place put a **light rope over the high** tie-point. If you use the **slingshot-and-fishing-line mounting** technique, use the fishing line to pull the rope **into place**. Also tie light ropes or cords to the **bottom ends** of the radials. These ropes **will be used to** position the radials.

8. Pull the **vertical element** into place, and tie the rope in **that position**.

9. Using the **light ropes** on the radial ends, position the radials so that they droop at about a **45 degree angle** with the feedline as shown in figure 1A. Tie the ropes to some tie-point such as a stake driven into the ground at the **correct point** to make the angle between the radial and feedline correct.

10. If you live **where lightning** is at all likely, use some kind of **lightning** protection. The minimum I **recommend** is to disconnect and ground **the antenna** when it is not in

use, and never use the antenna in weather likely to produce lightning.
The antenna is now ready to use.

RADIO RIDDLES

I Last Month:

I said "Electric currents flow in or on conductors, right? Well, what causes radio waves to leave an antenna, and fly off into space?" In reply, let me say that some scientists feel that there is no good way to logically explain radio wave emission. This is because such phenomena are best dealt with using quantum theory—a set of ideas usually not explainable in ordinary logical terms. On the other hand, the traditional, technical explanation which follows seems to have value in the practical or applied sense, so let's **check** it out.

As RF current from the transmitter flows on the antenna, this electron movement in the wire creates an electromagnetic (EM) field around the antenna. This field moves out from the antenna at approximately the speed of light. As the current flow in the antenna goes to zero—as it does twice per cycle of RF current—the EM field begins to collapse back into the antenna.


As the RF cycle continues, current begins to flow on the antenna in the opposite direction of the original current flow. This current flow causes a new field to move out from the antenna just as the initial field did, but with polarity opposite to the initial field. A portion of the initial field which was some large distance from the antenna when the initial current went to zero did not have time to collapse back into the antenna before this new field formed. This incoming portion of the initial field is now repelled outward again by the new field, and launched into space as a radio wave.

■ This Month:

Now that we have the radio wave on its way to your antenna, in the above answer to last month's riddle, what happens when the wave actually encounters your antenna? How does it change from being an EM wave propagated through space to become electrical current flowing in the wire of your antenna?

You'll find an answer for this month's riddle, and much more, in next month's issue of *Monitoring Times*. 'Til then, Peace, DX, and 73.

UNLOCK FULL 300 MHz



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|------|-------|
| 29 | 200 |
| 34 | 205 |
| 37 | 220 |
| 39 | 700 |
| 43 | 760 |
| 46 | 055 |
| 51 | 860 |
| 2004 | 890 |
| 2005 | 2500 |
| 2006 | 3000 |
| 2022 | 0500 |
| 2026 | 9000 |
| 2027 | ICOM |
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| 2040 | AOR |
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REPORT ON ANTENNA SITING MORATORIA

03-Feb-97

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|--------------|-------------------------------|-------------|---------------|--|
| Alabama | /16/97 | | Jefferson | 11/19/96 - 2/19/97 |
| | / 6/97 | | Shelby | 11/4/96 - 1/4/97; unresolved. |
| | 1/16/97 | | Shelby | 11/4/96 open ended. |
| | 1/14/97 | Birmingham | | 1/7/97 - 7/7/97 |
| | 1/16/97 | Fairfield | | 12/2/96 - open ended |
| | 1/16/97 | Fultondale | | |
| | 10/22/96 | Gardendale | Jefferson | 10/21/96 to 1/19/97 |
| | 12/10/96 | Graysville | | 11/5/96 to 2/5/97 |
| | 10/22/96 | Hoover | Jefferson | 9/16/96 to 12/16/96 extended to 2/16/97 |
| | 1/16/97 | Irondale | Jefferson | 9/17/96 - 12/16/96 extended to 2/16/97 |
| | / 6/97 | Leeds | Jefferson | 90 days until 12/26/96 extended to 2/28/97 |
| | / 6/97 | Madison | | 11/25/96 - 5/25/97 |
| | 1/16/97 | Mobile | | 12/5/96 for 60-90 days |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|--------------|-------------------------------|-----------------|---------------|--|
| Arizona | 1/16/97 | Mountain Brook | Jefferson | Adopted 9/23/96. Renewed 12/9/96 until 2/10/97 |
| | 1/16/97 | Tarrant | | 11 /4/96 - 2/4/97 |
| | 1/16/97 | Paradise Valley | | 7/18/96 1/18/97 - Extended to 3/15/97 |
| California | 1/14/97 | Berkley | | Ended |
| | 1/17/97 | Cerritos | | 11/25/96 for 45 days; extended until 10/97 |
| | 1/17/97 | El Segundo | | 11 /5/96-12/20/96; extended 12/17/96 until 8/17/97 |
| | 1/14/97 | Eureka | | Open, while City studies revised ordinance amendments to zoning governing communication towers |
| | 10/24/96 | Gonzales | | 1 0/21/96 Open ended |
| | 1/17/97 | Healdsburg | | adopted 3/18/96 - in effect until 5/30/97 |
| | 1/17/97 | Hercules | | 11/23/96 - extended 1/6/97 until 7/6/97 |
| | 10/7/96 | Lakewood | | extension until 8/27/97 |
| | 12/10/96 | Milbrae | | until 2/97 |
| | 1/17/97 | Norwalk | | 12/30/97 until 7/3/97. |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|--------------|-------------------------------|----------------|---------------|--|
| | 1/17/97 | Palm Desert | | Began 7/96 - Open ended |
| | 1/16/97 | Pico Rivera | | 9/16/96 to 8/5/97 |
| | 1/17/97 | Pomona | | 7/29/96 to 10/29/96 (extension) ..additional extension until 1/21/97. |
| | 1/14/97 | Portola Valley | | 1/8/97 -2/23/97 for 45 days |
| | 1/16/97 | San Francisco | | 7/25/96 Open - Until a Telecommunications Facilities Plan is adopted |
| | / 7/97 | San Gabriel | | 7/18 extended through 3/15/97. |
| | 1/14/97 | | | 9 months, until September 1, 1997 |
| | 1/16/97 | Sunnyvale | | until 2/97 |
| | 1/17/97 | Thousand Oaks | | 11/19/97 - 10/97 |
| | 1/14/97 | Tracy | | Temporary, until City Council establishes policy on cellular facilities |
| | 1/14/97 | West Covina | | 12/10/96, until a new ordinance is written. Extension of moratorium approved on 12/17/96, will continue until 5/1/97. |
| | 1/17/97 | | | 7/97 - extended indefinitely |

Colorado

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|--------------------|-------------------------------|-------------|---------------|--------------------------------------|
| | 1/16/97 | | Adams | 8/25/96 to 2/10/97 |
| | 1/16/97 | Clear Creek | | Applications on "Hold" until 1/28/97 |
| | 1/16/97 | Wheatridge | | until 11/20/96 - extended to 1/27/97 |
| Connecticut | 1/16/97 | Bethel | | until 3/10/97 |
| | 1/16/97 | Branford | | until 1/13/97 |
| | 1/16/97 | Groton | | until 3/28/97 |
| | 1/16/97 | Gullford | | until 3/17/97 |
| | 1/16/97 | Hamden | | until 9/1/97 |
| | 1/16/97 | Middlefield | | until 3/28/97 |
| | 1/16/97 | New Haven | | 9/9/96 - 1/20/97 |
| | 1/16/97 | Norwalk | | until 1/20/97 |
| | 1/16/97 | Orange | | until 3/28/97 |
| | 1/16/97 | Southington | | until 3/3/97 |
| | 1/16/97 | Union | | until 3/28/97 |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|----------------|-------------------------------|------------------|---------------|---|
| Florida | 1/16/97 | Wallingford | | until 2/3/97 |
| | 1/16/97 | Windsor | | until 5/1/97 |
| | 12/2/96 | | Indian River | 180 days--12/96--5/97 |
| | 1/16/97 | | Orange | Implied moratorium until "spring of '97" |
| | 1/14/97 | Coconut Creek | Broward | Until ordinances are adopted on 2/4/97 |
| | 1/14/97 | Dania | Broward | 10/22/96 - 1/22/97 |
| | 1/14/97 | Davie | Broward | 6/24/96 - 12/24/96; extended until 3/24/97 |
| | 1/16/97 | Delray Beach | | 12/17/96 - 2/17/96 |
| | 1/17/97 | Homestead | Dade | 10/7/96 - 4/10/97 |
| | 1/16/97 | Lakeland | Polk | 1/6/97 to 7/6/97 |
| | 1/14/97 | Murgate | Broward | Due to end 2/97. Extended until July, 1997. |
| | 1/14/97 | North Miami | Dade | 9/24/96 - 3/24/97 |
| | 1/14/97 | North Palm Beach | Palm Beach | 5/30/96 to 11/30/96 extended for additional 90 days, until 2/28/97. |
| | 1/14/97 | Oakland Park | Broward | 10/1/96 - 3/1/97 - |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|----------------------|-------------------------------|--------------------|--------------------|--|
| Illinois | 1/14/97 | Opalocka | | 10/23/96 to 1/23/97 90 days |
| | 1/15/97 | Palm Beach Gardens | Palm Beach | 8/30/96 Open ended |
| | 1/14/97 | Pembroke Pines | Broward | 120 days Through 2/4/96 |
| | 12/2/96 | Pompano Beach | Broward | 180 days until April 1997 |
| | 1/16/97 | Tamarac | | Originally for 90 days; still in effect |
| | 1/14/97 | Wilton Manors | Broward | |
| | 1/16/97 | | St. Clair | Implied moratorium - delay tactics since 5/96 |
| Louisiana | 1/23/97 | Batavia | | 10/7/96 -4/7/97 |
| | 1/23/97 | North Aurora | | 4 months--until 2/28/97 |
| | 1/23/97 | Wheaton | | Originally 6 months, has been extended through 3/97. |
| | 12/10/96 | | Jefferson Parish | 2/28/96 to 2/28/97 |
| Massachusetts | 12/10/96 | | St. Charles Parish | 9/23/96 to 1/30/97 |
| | 1/16/97 | Franklin | | 10/16/96 to 7/97 9 months |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|------------------|-------------------------------|--------------------|---------------|------------------------------|
| Michigan | 1/15/97 | Wellfleet | | 4/22/96 to 4/22/97 |
| | 12/10/96 | Bloomfield Twp. | | 10/28/96 until 1/27/97 |
| | 1/21/97 | Commerce Twp. | | 90 days--until 3/10/97 |
| | 1/16/97 | Farmington Hills | | 5/8/95 - open ended |
| | 12/10/96 | Huron Twp. | | 10/9/96 until 4/9/97 |
| | 1/21/97 | Keego Harbor | | 90 days--until 2/97 |
| | 1/21/97 | Lincoln Park | | 6 months--5/18/97 |
| | 1/21/97 | Romulus | | 15 months-until 4/97 |
| | 1/21/97 | Village of Milford | | 12 months-until 10/7/97 |
| | 1/21/97 | Waterford Twp. | | 8 months--until 2/11/97 |
| | 12/10/96 | Wyandotte | | 10/28/96 - open ended. |
| | 1/16/97 | | Scott County | 12/17/96 - 6/17/97 |
| | 11/15/97 | | Washington | 11/12/96 until 2/12/97 |
| Minnesota | 12/10/96 | | Wright | 11/5/96 to 11/5/97 12 months |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|--------------|-------------------------------|----------------|---------------|---|
| | 1/16/97 | Afton | | 8/15/95 until 1/6/97 |
| | 12/10/96 | Brooklyn Park | | 9/23/96 to 3/23/97 |
| | 1/16/97 | Coon Rapids | | 11/19/96 - 11/19/97 |
| | 1/16/97 | Dayton | | 7/17/96 to 12//96 extended until 3/97 |
| | 1/16/97 | East Bethel | | 9/4/96 to 3/4/97 |
| | 1/16/97 | Fridley | | 12-16/97 - 6/16/97 |
| | 12/10/96 | Grant Twp. | | 11/12/96 until 5/12/97 |
| | 12/10/96 | Independence | | 10/22/96 until 4/22/97 |
| | 1/16/97 | Lake Elmo | | 1/13/97 Open Ended |
| | 1/16/97 | Linwood | | 10/10/96 - 4/10/97 |
| | 1/16/97 | Little Canada | | 7/10/96 to 1/97 extended to 5/1/97 |
| | 1/16/97 | Long Lake | | 8/20/96 to 12/20/96 extended to 6/30/97 |
| | 1/16/97 | Maplewood City | | 11/27/95 to 12/31/96 Resolved 1/13/97 |
| | 1/16/97 | Mounds View | | 9/6/96 to 3/6/97 |
| | 1/16/97 | New Hope | | 6/24/96 to 12/24/96 extended to 3/11/97 |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|------------------|-------------------------------|---------------------|---------------|---|
| Minnesota | 1/16/97 | Newport | | 11/21/96 - 3/21/97 |
| | 1/16/97 | Nininger Township | | 8/20/96 to 8/20/97--12 months |
| | 1/16/97 | Oak Grove | | 11/29/96 - 3/1/97 |
| | 1/16/97 | Orono | | 8/26/96 - 1/26/97 |
| | 1/16/97 | Robbinsdale | | 11/95 to 2/9/97 |
| | 1/16/97 | Savage | | 10/7/96 - 10/7/97 |
| | 12/10/96 | Shakopee | | 11/19/97 until 3/19/97 |
| | 12/10/96 | Shoreview | | 10/96 to 10/7/97 12 months |
| | 1/16/97 | St Paul | | 10/9/96 - 2/9/97 |
| | 1/16/97 | Vermillion Township | | 10/24/96 - 2/19/97 |
| | 1/16/97 | Mendota Heights | | 12/3/96 to 12/3/97 |
| | 1/16/97 | | | |
| Missouri | 1/16/97 | | Jefferson | No formal moratorium, but delay tactics since 7/96. |
| | 1/16/97 | | St. Charles | Moratorium implied. Began 5/96. |
| | 1/16/97 | | St. Louis | No formal moratorium, but delay tactics began 4/96. |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|--------------|-------------------------------|------------------|---------------|--|
| New York | 1/16/97 | Arnold | | No formal moratorium but delay tactics since 6/96 |
| | 1/16/97 | Cottleville | | No formal moratorium, but delay tactics since 7/96 |
| | 12/10/96 | Creve Coeur | | 8/12/96 12/12/96 120 days |
| | 12/10/96 | Kirkwood | | Began in May - open ended |
| | 1/16/97 | Maryland Heights | | Moratorium implied since 8/96. |
| | 12/10/96 | Oakland | | 11/11/96 for 45 days |
| | 1/16/97 | Weldon Springs | | No formal moratorium but delay tactics began 8/96 |
| | 12/10/96 | Amherst | | 8/96 to 12/16/96 |
| | 12/10/96 | Carmel | | 9/12/96 to 3/12/97 |
| | 1/16/97 | Cheektowaga | | 8/96 until 12/31/96; extended to 1/22/97 |
| | 12/10/96 | Clarence | | 10/23/96 to 1/23/97 |
| | 1/16/97 | Clifton Park | | 9/17/96 until 12/17/96; extended to 2/17/97 |
| | 12/10/96 | Eden | | 9/18/96 to 2/18/97 |
| | 12/10/96 | Elma | | 9/4/96 to 2/11/97 |

| <i>State</i> | <i>Date of Report/Updated</i> | <i>City</i> | <i>County</i> | <i>Duration</i> |
|--------------|-------------------------------|-----------------|---------------|---|
| | 12/10/96 | Farmington | | 9/23/96 to 3/97 6 months |
| | 12/10/96 | Greece | | 10/15/96 to 4/15/97 |
| | 12/10/96 | Greenburgh | | 9/12/96 to 3/97 180 days |
| | 12/10/96 | Lewisboro | | 10/8/96 to 1/97 |
| | 12/10/96 | Lyons | | 10/15/96 to 4/15/97 |
| | 12/10/96 | Moerau | | 9/6/96 to 3/6/97 |
| | 1/16/97 | Mt. Kisco | | 10/21/96 - 1/21/97 |
| | 1/17/97 | North Salem | | 9/24/96 to 12/24/96; Extended until 4/97. |
| | 12/10/96 | North Tonawanda | | 10/15/96 to 1/15/97 |
| | 1/16/97 | Orangetown | | 12/23/96 - 3/10/97 |
| | 12/10/96 | Parma | | 9/17/96 to 5/97 8 months |
| | 12/10/96 | Rochester | | 9/10/96 to 1/10/97 4 months |
| | 12/10/96 | Rush | | 8/14/96 to 2/14/97 6 months |
| | 1/16/97 | Sommers | | 9/12/96 - 3/12/97 |
| | 12/10/96 | Springville | | 9/20/96 to 1/20/97 120 days |

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|----------------|-------------------------------|---------------|---------------|--|
| | 1/15/97 | Tonawanda | | 10/28/96 to 5/9/97 |
| | 12/10/96 | Walworth | | 8/15/96 to 2/14/97 |
| | 12/10/96 | Webster | | 7/96 to 1/97 6 months |
| | 1/16/97 | West Seneca | | 9/23/96 12/23/96; extended to 1/31/97 |
| North Carolina | 1/15/97 | | Ashe | 6 months, beginning 1/13/97, through 7/13/97 |
| | 12/10/96 | | Transylvania | 180 days until 11/20/96 |
| | 12/10/96 | Blowing Rock | | 12/96--6/97 |
| Rhode Island | 1/16/97 | Burrillsville | | 9/12/96 - 1/12/97 |
| Texas | 1/16/97 | Mesquite | | Until 2/28/97 |
| Utah | 1/16/97 | | Salt Lake | No formal moratorium, but open ended delay. |
| | 1/16/97 | Riverdale | | No formal moratorium, but open ended delay. |
| Washington | 12/10/96 | | Kitsap | 9/23/96 to 3/23/97 |

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|------------------|-------------------------------|------------------|----------------|---|
| | 12/10/96 | | San Juan | 9/10/96 to 3/10/97 |
| | 12/10/96 | Bainbridge Is. | | 11/96 to 5/97 |
| | 12/10/96 | Des Moines | | 11/5/96 to 5/97 6 months |
| | 12/10/96 | University Place | | 11/15/96 to 5/15/97 6 months |
| Wisconsin | 1/16/97 | Erin | | On going - dates not reported |
| | 1/16/97 | Menomonee Falls | | Ongoing - dates not reported. |
| | 1/15/97 | Mequon | Ozaukee County | 5/20/96 to 11/20/96, extended--open ended |
| | 1/16/97 | New Berlin | | Open ended - dates not reported. |
| | 12/10/96 | Port Washington | | 10/31/96 - 10/31/97 |
| | 1/16/97 | Saukville Twp. | | Open ended - dates not reported. |
| | 1/16/97 | Waukesha | | Open ended. Dates not reported. |
| | 1/14/97 | Cheyenne | | 90 days--until 4/13/97 |
| | | | | |
| Wyoming | | | | |